



ABOVE • Forty years ago, this scientist became chief of a lab he still heads. See story on p. 12. (And no, it is not J.D. Salinger.)

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'Can't Buy a Better Death'

Study Finds End of Life Can Be Peaceful, Less Expensive

By Rich McManus

As the campus lecture season wound down for the summer, it was hard to pass up the chance to hear about "Dying Better: Lessons from the Coping with Cancer Study," given on June 1 by Dr. Holly Prigerson, director of the Center for Psycho-Oncology and Palliative Care Research, Harvard Medical School, Dana-Farber Cancer Institute.

After all, everyone checks out, and some of us may have to walk a tough road before we do. Thus it was good to be among attendees at the NIH end-of-life palliative care special interest group's last meeting of the season. Mostly women, the audience was informed, seasoned and simpatico. You got to thinking, if I got the bad news, these are the kinds of people I'd want in my corner. Most of the Clinical Center's spiritual ministry department was there, too.

Funded by NCI and NIMH, the Coping with Cancer Study followed about 700



Dr. Holly Prigerson speaks with Clinical Center chaplain Fr. Henry Heffernan prior to her talk on June 1.

SEE **END OF LIFE**, PAGE 6

Bradford Explores Health of LGBT Population

By Erin Fults

Rainbow-colored banners were seen flying throughout Washington, D.C., in June for Capital Pride, an annual event celebrating lesbian, gay, bisexual and transgender (LGBT) communities in D.C. and nationwide. In commemoration of LGBT pride month, NIH focused on health issues in that community as part of its Health Disparities Seminar Series.

Dr. John Ruffin, director of the National Institute on Minority Health and Health Disparities, welcomed Dr. Judith Bradford to address the health care challenges faced by the LGBT community. Today, around 4 million individu-



Dr. Judith Bradford

'Arab Spring' Offers New Opportunities For NIH-Egypt Collaboration

By Ann Puderbaugh

Egypt is poised for a scientific renaissance with a plan to more than double its research investment over the next 4 years, according to the country's science minister, who visited NIH recently to meet with senior leaders.

"Egypt is moving toward a new era," said Dr. Amr Salama, Egypt's minister of higher education, scientific research and technology. "We have a strategic geographic location, a well-educated population and robust research facilities. We are prepared to become one of the world's leading research centers."

He asked for help in achieving that goal, calling for America to open its doors to scientists from Egypt's universities and research centers so they can enhance their capabilities and form collaborations that will benefit both partners.

"We have much to learn from each other and look forward to increasing interactions with

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SEE **ARAB SPRING**, PAGE 8



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briefs

NIDA Invites Debra Winger, Addiction Performance Project to Campus

According to the National Survey on Drug Use and Health, 21 million people in 2009 did not receive needed treatment for their drug or alcohol problem. In order to help break down the stigma attached with seeking treatment for these issues, NIDA launched the Addiction Performance Project, part of the institute's outreach to practicing health care providers and those in training. The project serves as a forum for health care professionals to discuss challenges and strategies for addressing drug abuse issues in their practices.

The Addiction Performance Project (APP) is a free program that is scheduled to include: actors Debra Winger, Arliss Howard and others, who will perform a dramatic reading of Act III of Eugene O'Neill's *Long Day's Journey into Night*; NIDA director Dr. Nora Volkow will be joined by other experts to share responses to the performance. Opening remarks will be given by R. Gil Kerlikowske, director of the White House Office of National Drug Control Policy. There will also be an audience discussion.

The APP will be held Friday, Aug. 5 in Lipsett Amphitheater, Bldg. 10 from 10 to 11 a.m. The event is free and open to all. Registration is recommended: drugabuse.gov/nidamed/app. Questions? Email nidamed@nida.nih.gov.

Free Outdoor Film Festival, Aug. 4-8

The 15th annual Comcast Film Festival will take place nightly from Thursday, Aug. 4 to Monday, Aug. 8. Due to construction at the Strathmore location, the festival will again be held at the Universities at Shady Grove, 9630 Gudelsky Dr., Rockville.

Bring your blanket, chairs (low chairs only) and anyone who loves movies to this festival. The movies and parking are free, food will be available to purchase and there will be a raffle to raise funds for the NIH Charities (Friends of the Clinical Center, Children's Inn and Camp Fantastic/Special Love). Donations are also accepted.

Thursday, Aug. 4	<i>True Grit</i>
Friday, Aug. 5	<i>Tangled</i>
Saturday, Aug. 6	<i>Up</i>
Sunday, Aug. 7	<i>Toy Story 3</i>
Monday, Aug. 8	<i>Top Gun</i> (25th anniversary)

Restaurants will open at 6:30 p.m. and movies begin at 8:30. For more information, visit www.filmfestnih.org or call (301) 496-6061. If you are interested in volunteering for this event, contact Alison Chou at achou.nih@gmail.com.

NIH Sailing Association Open House

The NIH Sailing Association will hold an open house on Saturday, July 30 from 10 a.m. to 3 p.m. at the Selby Bay Sailing Center in Mayo, Md. Explore your interest in learning to sail and discover opportunities for sailing with NIHSA. There will be demonstration sails for adults in the club's 19-ft. Flying Scot sailboats. Fall sailing classes begin Aug. 24; this is a good chance to preview the boats and meet the members. Directions can be found at www.recgov.org/sail. The open house includes food, drinks and beer for \$10 per person. Look for posters and flyers around campus for more information.

Do You Need Help Paying for Child Care?

For many families, the cost of child care can be their first or second highest monthly expense. NIH wants to help employees afford quality licensed child care.

All NIH federal employees, no matter where they live—Maryland, Virginia, D.C., Montana or North Carolina—can apply for child care tuition subsidy and use it at their local licensed child care provider.

If your total adjusted family household income is \$60,000 or less per year, you may be eligible to receive a child care tuition subsidy. Your child or children must be enrolled with a licensed child care provider.

NIH has chosen Federal Employee Education and Assistance (FEEA) Child Care Services, Inc. to administer the NIH Child Care Subsidy Program. FEEA will receive completed applications, make subsidy determinations based on eligibility and funding and notify applicants and child care providers of decisions. The subsidy will be paid directly to the child care provider.

If you are an NIH federal employee and think you may qualify, visit the Office of Research Services child care web site <http://does.ors.od.nih.gov/childcare/> or call the Division of Amenities and Transportation Services child care staff at (301) 402-8180 for eligibility and enrollment information.

nih record

Ferrucci Named NIA Scientific Director

By Megan Homer

Internationally known gerontologist Dr. Luigi Ferrucci has been appointed scientific director of the National Institute on Aging.

Beginning his career as a geriatrician and then earning a doctorate in the biology and pathophysiology of aging from the University of Florence, Italy, Ferrucci has long been interested in the aging process.

“Early in medical school,” he says, “it became clear to me that aging played an incredibly important role influencing a person’s health, and that our aging population was going to have a major impact on society in the future.”

His research has been aimed at reducing the burden of disease and disability in older people. He is credited with the discovery that physical and cognitive functional status—not a disease or condition by itself—is the most important measure of health and homeostatic equilibrium in older people.

In 2002, Ferrucci came to the National Institute on Aging’s Intramural Research Program as chief of the longitudinal studies section in the Clinical Research Branch. There, he directs the Baltimore Longitudinal Study of Aging (BLSA), at 53 years one of the world’s longest running studies of normal aging.

Becoming part of NIA’s research staff and director of BLSA nearly a decade ago was a “dream come true,” Ferrucci says. The study has intrigued and inspired him. In his early twenties, while many of his friends were idealizing rock stars and soccer players, Ferrucci recalls, he admired the career and work of Dr. Nathan Shock, BLSA founder and, in the 1940s, chief of the Gerontology Branch at NIH. With his appointment as NIA scientific director, Ferrucci says he feels honored to follow in Shock’s footsteps.

“Dr. Ferrucci has revitalized and reconceptualized NIA’s BLSA based on new paradigms about how we age. I look forward to his bringing the same compassion, dedication and innovation that has characterized his career to this new position of leadership in aging research,” said NIA director Dr. Richard Hodes.

Ferrucci’s multidisciplinary background forms



the basis for some of his goals as scientific director. “I hope to foster more frequent and effective collaboration between scientists conducting basic research and those conducting clinical studies, breaking some of the barriers that inhibit the translation from bench to bedside.” There are opportunities, he has said, to work on projects that “cross the boundaries of our laboratories” in order to enrich the ideas of the institute’s intramural research program.

In his first all-hands session with IRP staff, Ferrucci shared some principles that have guided his career thus far and that he plans to use in his new role. These include excellence in science, learning from failure to improve as a leader and scientist, a strong and hopefully inspirational commitment to the study of aging and the importance of people over “stuff” and ambition. Regarding the latter, he says “this is one of my most important principles in life.”

In addition to his own research, Ferrucci has been a leader in mentoring dozens of scientists and serving as a resource to gerontologists across the institute and beyond. His teaching extends to adjunct professorships at both the University of Maryland School of Medicine and Johns Hopkins University School of Medicine’s division of geriatric medicine and gerontology. He has served as editor of the *Journal of Gerontology: Medical Sciences* since 2005. He is associate editor of the *Journal of Cachexia, Sarcopenia and Muscle*, on the editorial board of *Geriatría y Gerontología* (Barcelona, Spain) as well as a reviewer for the Wellcome Trust (London).

Before coming to NIA, Ferrucci was assistant director and coordinator of the Laboratory of Clinical Epidemiology at the National Institute for Research and Care on Aging in Italy. 📍

‘Adventures in Biology’ To Begin Second Year

Adventures in Biology, a series of evening lectures at NIH for high school students, will begin its second season this October and is seeking volunteer teachers from the NIH staff.

The program explores topics in biology that are not covered in the usual high school curriculum and are chosen by the speakers. The goal of AIB is not just to present science facts, but to introduce students to the process and drama of scientific discovery. AIB is administered as a 4H program and is not sponsored by NIH, but NIH supports its educational goals. The program will take place on campus on Wednesday evenings, 6-7:30 from October through March.

Last year’s AIB sessions included talks on the Human Genome Project, cell motility, immunoglobulin genes, parasites, bacterial pathogens, oncogenic viruses, polar bear ecology, tracking arboviruses in Peru and genetic diseases. Speakers included volunteers from NIH, the National Zoo, Howard Hughes Medical Institute, the Food and Drug Administration and Georgetown University.

The program is looking for volunteers who would enjoy teaching about biological mysteries that were solved by exciting scientific detective work, and who believe that presenting a memorable and entertaining scientific lecture is an art form. The lectures should also address biology’s everyday role in society by including any implications of scientific discoveries for medicine and science policy.

If you are interested in volunteering, contact Dr. Juhong Liu (juhong.liu@fda.hhs.gov) or Dr. Ed Max (edward.max@fda.hhs.gov). Students interested in attending the program should contact Eric Keen at adventuresinbio@gmail.com to receive enrollment information.

LGBT HEALTH

CONTINUED FROM PAGE 1

Right:

Says Bradford, "For all of us who are sexual and gender minorities, this is about how important it is just to be recognized, because you matter."

PHOTOS: BILL BRANSON

als identify themselves as lesbian, gay, bisexual or transgender.

Bradford emphasized that the LGBT community is unique in the amount and types of diversity it contains and that this diversity equates to different health needs for a less-understood population. Research related to the LGBT community has simply scratched the surface of the needs of this group.

It was only in the early 1990s that the National Opinion Research Center (NORC) conducted the National Health and Social Life Survey, widely regarded as the most authoritative national survey including sexual orientation measures to date.

"It all began with this study," Bradford said. "It all' meaning: What do we know about people who have same-sex attraction, behavior or identity? Who are they, how many of us are there, how do we even think of counting or finding them?"

People began to realize what kind of diversity lay within the LGBT community. It wasn't just a sexual minority population, but it was also ethnically, culturally and behaviorally diverse.

"Diversity within this population is not just how we identify or behave or what we desire, but is also the diversity within us according to our demographic characteristics," Bradford said.

While the NORC study was an important starting point, researchers realized that collecting data on the LGBT community was a complicated task. Studies often phrase their questions differently and Bradford noted how critical it is to look at how the questions are being asked and to understand what they may mean to those answering them. For example, while some people might be attracted to a particular gender they may not necessarily say they identify as the corresponding sexual orientation.

This is why demographic research is something Bradford has prioritized. She recently served on the study committee for an Institute of Medicine report titled, "The Health of LGBT People: Building a Foundation for Better Understanding." The principal finding was the overall lack of research in many areas of LGBT health. Bradford noted that research had been conducted unevenly; for example, more data is available on gay and lesbian populations than bisexual and transgender people, less data is available on adolescents and subpopulations and there is very little data on those with disabilities within the LGBT population.

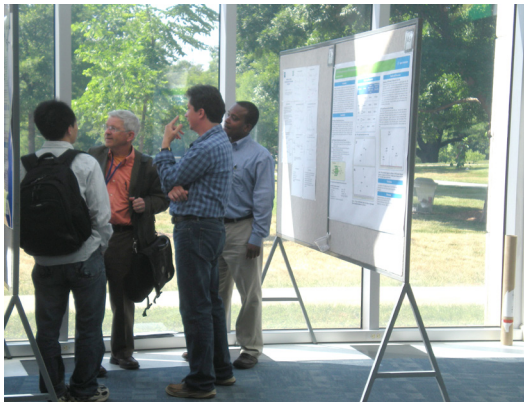


The IOM report recommends that more data be collected through federally funded surveys, but Bradford is helping take population research a step further. She is director of the Center for Population Research in Lesbian, Gay, Bisexual and Transgender Health at the Fenway Institute in Boston, offering a summer program with the goal to support development of the next generation of LGBT health population scientists. Funded by NICHD, the program provides students with foundations in population research for LGBT health and data analysis training.

"It's remarkable that we are able to have a program like this. For all of us who are sexual and gender minorities, this is about how important it is just to be recognized, because you matter," says Bradford.

While it is an internally diverse community, there is a troublesome similarity that extends throughout the LGBT community when compared to the heterosexual population: high-risk behavior. A recent CDC study showed that sexual minority students are more likely to engage in risky behavior, ranging from violence, attempted suicide, tobacco and alcohol use, drug use, sexual behaviors and weight management. Across LGBT population groups, tobacco use is substantially greater than among heterosexuals. Health dissimilarities extend into adulthood when many LGBT individuals live in poverty and without family support.

"We know the LGBT population has unique health experiences and needs, but as a nation, we do not know exactly what these are," said Bradford. "I'm grateful to the NIH for commissioning the IOM report and giving us increased confidence that the work we've been doing for a long time is paying off. This report and other national initiatives will make it possible for us to bring more and more data forward." 🗞



Glycosciences Research Day featured a poster competition with over 60 abstracts.

Glycans Take Stage at Glycosciences Research Day

By Allison MacLachlan

Proteins, DNA and RNA tend to get the spotlight, but other molecules—including sugars—are just as critical to health.

Scientists have studied the structure of sugars for more than a century, but about 25 years ago glycobiology began to emerge as a field focused on the functional aspects of glycans, also known as complex carbohydrates.

Interest in the subject brought more than 250 registrants to Kirschstein Auditorium on June 15 for NIH and FDA's 4th annual Glycosciences Research Day. Through symposia, poster sessions and roundtable discussions over lunch, the meeting highlighted the role of glycans in conditions as diverse as malaria, cancer metastasis and muscular dystrophy.

This year's turnout was a record high, which is fitting for a field that has been growing rapidly, said co-chair Dr. Daron Freedberg of FDA. He emphasized that the goal of the day-long meeting was "cross-pollination" of ideas among researchers from different avenues of glycobiology.


Virtually all cells have a glycan coating. For instance, a sugary shield covers most of HIV, but researchers have identified a small, glycan-free zone on its surface that looks like a prime target for an antibody to bind and neutralize the virus.

Often, glycans are attached to proteins on the cell's outer membrane. These composites, called glycoproteins, help cells send and receive chemical signals. The meeting highlighted a role for glycoproteins in colon cancer cell migration and in the malaria parasite's attachment to human cells.

Dr. Gerardo Vasta, a biochemist at the University of Maryland Biotechnology Institute in Baltimore, discussed how the immune system recognizes invaders—viruses, bacteria, fungi and parasites—by the sugars on their surfaces. Vasta's work with zebrafish shows that certain glycoproteins are also important in early development, triggering the growth of the heart and spine.

Dr. Christopher Campbell, an NIGMS Pharmacology Research Associate post-doctoral fellow working in a lab at NCI, found that a man's immune response to a particular sugar is a good predictor of how well he will respond to a vaccine for prostate cancer.

Events like Glycosciences Research Day have wide-ranging potential for vaccine development, biomarker discovery and biotherapeutics. Dr. Ronald Schnaar of Johns Hopkins School of Medicine, who co-chaired the first session, noted that many drugs contain glycans and interact with glycoproteins—"so you've got to understand sugars to make biological drugs."

In addition to glycobiology research grants, NIGMS funds the Consortium for Functional Glycomics (CFG), a major collaborative effort that is "establishing the necessary tools, databases and research teams to move the field of glycobiology forward," said NIGMS program director Dr. Pamela Marino. The CFG will hold its 2011 meeting at NIH on July 27-29. See www.nigms.nih.gov/News/Meetings for details. 

NIH Announces Five New Clinical and Translational Science Awards


NIH has announced five new Clinical and Translational Science Awards (CTSAs). In total, the new awards will provide an estimated \$200 million over 5 years to enable health research centers to accelerate scientific discoveries into treatments for patients.

Led by the National Center for Research Resources, the CTSAs help NIH-funded scientists collaborate nationwide and with other NIH institutes and centers on research that can be applied to a broad range of diseases. CTSA-funded institutions also work with industry, manufacturers, patient groups and nonprofit organizations to ensure that potentially life-saving new drugs and devices reach the public faster.

"The CTSAs support the innovation and partnerships necessary to bridge the traditional divides between basic research and medical practice," said NIH director Dr. Francis Collins. "The combination of resources and collaboration made possible by these awards is essential for developing and delivering new treatments and prevention strategies."

Now in its fifth year, the CTSA consortium has generated resources that enhance the efficiency and quality of clinical and translational research such as a searchable database of potential industry partners to aid scientists seeking public-private partnerships to take their research to the next level. Another example is a secure web application designed to assist scientific teams with research data collection, sharing and management.

The 2011 CTSAs expand consortium representation to two additional states—Kansas and Kentucky—extending the network to 30 states and the District of Columbia. With these most recent awards, NIH is funding 60 CTSA institutions. The five new institutions are Pennsylvania State University, Milton S. Hershey Medical Center; University of California, Los Angeles; University of Kansas Medical Center; University of Kentucky; and the University of Minnesota.

For information about CTSA-supported science advances, visit www.ncrr.nih.gov/ctsa and watch for the *CTSA Progress Report 2009–2011: Advancing Scientific Discoveries Nationwide to Improve Health* to be published this summer. 

patients with advanced metastatic cancer diagnoses at seven medical centers around the U.S., examining factors determining quality of care and quality of life. Taken into account were the effects of race/ethnicity, religious coping, end-of-life (EOL) discussions, cognitive and emotional acceptance of death and family caregivers' anxiety on EOL decision-making.

Looking at factors influencing the aggressiveness, or intensity, of care in the last days of life, the researchers found a kind of dose-response relationship: the more physicians employed aggressive measures, the lower the patients' quality of life; the final days were also considerably more expensive. Hospice care at end of life, on

the other hand, was more peaceful and less expensive. As Prigerson noted, "You can't buy a better death."

Aggressive care typically means that the patient ends up on a ventilator (and thereby can't speak), needs resuscitation and ends up dying in an intensive care unit.

Prigerson and her colleagues discovered an interesting difference between patients described as "religious copers" versus those who considered themselves "spiritual." In a finding that some called counterintuitive, patients who used religion to cope with their cancer wanted and got more aggressive care at the end

of life, as if more days alive meant giving God a wider window of opportunity to intervene.

"They felt their main job was to sustain life," she said, characterizing their emotional state as "frantic, desperate and fear-based."

She speculated that these patients were sort of "religious wannabes," latecomers to religious practice who were, in many ways, simply trying to perform well for the home crowd—the church back home praying and pulling for them.

Spiritually inclined patients, on the other hand, were different, Prigerson said. They were less aggressive about EOL care and more peaceful; there was no stadium to impress.

"Once patients' spiritual needs are met, the less preference there is for aggressive care," she said, "and the more hospice is used. There are dramatic cost savings associated [with hospice care] too. There were significantly lower costs for those who felt spiritually supported."

Prigerson discovered that most study participants—close to 60 percent—wanted to know how long they had to live. "I think that's courageous," she said.

Her team also found that EOL discussions were not associated with more stress or more hopelessness; they had no effect on patients' survival. "It doesn't kill them," she quipped.

She stressed the importance of tailoring an EOL discussion "to where the patient is psychologically." Some can become numb upon hearing a poor prognosis.

"You need to work through that initial terror and horror [which about 58 percent of study subjects reported], then you get better at processing and benefit from the discussion," she said; there is a psychological "readiness zone" that experienced caregivers can recognize.

EOL discussions typically involve three components: curability, prognosis and treatment game plan. "The goal is to do it sooner in the course of illness, to offer more benefit to more people," Prigerson suggested.

The Coping with Cancer Study found that EOL discussions were markedly less beneficial in the black population than among whites and that blacks in the study "were much more likely to die in the ICU." Her theory is that the race and culture of the bearer of bad news matters; she lamented the dearth of black oncologists to play that role.

"We need more EOL discussions, but they have to be psychologically sensitive and culturally competent," she said.

Another factor thwarting the ideal of a "therapeutic alliance" between patient, health care provider and family member occurs with subtle "impairment" in the patient's cognition.

How then, does one die best in the shadow of a dire prognosis? Prigerson reported that several factors predict quality of death, including peacefulness, being treated as a whole person by your physician, having a "do not resuscitate" order in place and learning the news from a calm caregiver, not one who is extremely anxious.

She emphasized the importance of providing spiritual support to those patients who are religious, and of conducting EOL discussions early and in a culturally competent manner, but not to those so numb they cannot bear harsh news.

Caregivers also need to make plain to patients that there are "states worse than death," Prigerson added.

During a brief Q&A, Prigerson noted that the Coping with Cancer Study, which ran from 2002 to 2008, has recently been renewed. Some 70 percent of those invited to participate in the first iteration actually took part; Prigerson acknowledged that simply agreeing to participate in the study itself constituted an intervention.

"There were a lot of hankies being handed out at these interviews," she noted. "Many patients were glad to participate and found it rewarding."

One of the chaplains underscored the importance to the bereavement process of medical oncologists' personal expression of sympathy to survivors.

"I don't think oncologists realize how patients hang on their every word, and how they are respected and appreciated," Prigerson said. "Here's something they can do that really matters." ■

Future Directions in End-of-Life Care

As part of its 25th anniversary commemoration, NINR is holding a summit on "The Science of Compassion: Future Directions in End-of-Life and Palliative Care," on Aug. 10-12 at the Hyatt Regency Bethesda. More information is available at www.ninr.nih.gov/Research-AndFunding/scienceofcompassion.htm.



Above, the Children's Inn's Holly Lotwin (l) and Jean Lewis of Emerging Young Leaders show crafts made by youngsters. Below, 2011 EYL girls work on their volunteer project for the Children's Inn at NIH.



Leadership Group Helps Families at Children's Inn

A group of Howard County middle school girls recently spent a Saturday making various crafts for children and families at the Children's Inn at NIH. The young ladies are members of Emerging Young Leaders (EYL), a program of Alpha Kappa Alpha Sorority, Inc. EYL helps middle school girls become tomorrow's leaders through academic enrichment, civic engagement, leadership development and character-building.

Along with the Iota Lambda Omega chapter in Columbia, Md., and the support of inn staff, the volunteers made placemats that featured puzzles, encouraging words, sports and fashion finds. The mats were laminated so families could reuse them with ease. Other projects included decorated picture frames for family memories and dozens of travel-size toiletries for family members to use during their stay at the inn.

Personalized journals were much appreciated, according to Holly Lotwin, then the inn's community outreach assistant. She said journals are a good project for any group wanting to support the inn; children enjoy and are encouraged to write daily so the doctors treating them get insight on how they are feeling.

Some of the Emerging Young Leaders recorded popular children's books so the children could listen to stories through CD players and headphones also donated by the sorority.

"These CDs could be a great source of entertainment for the kids and families as they are

traveling back and forth from NIH," Lotwin said. The CD labels featured the EYL logo.

"The young ladies in our group were very passionate about this project. They gave us the idea and we gave them the tools and opportunity to succeed," said Jean Lewis, EYL program chair. "We will return to assist in whatever ways we can at the inn."

The Children's Inn welcomes such help. The summer months bring slow donor activity. There are many ways to contribute, from assisting or planning a family dinner night or giving to the mailbox Thoughtful Treasures, where small handmade gifts are placed in the children's mailboxes daily. All kids as well as their siblings receive a "treasure" each morning.

Visit www.childrensinn.org or contact Cait Cutter, community outreach and volunteer program assistant, at (301) 594-5364 or email cutterca@mail.nih.gov for more information on how you can make a difference at the inn. ①

'Hiring Event' Benefits Job Candidates, NIH

NIH's Office of Human Resources held its second annual Hiring Event for Veterans and Persons with Disabilities recently at the Chevy Chase Pavilion in Washington, D.C. Managers from many institutes and centers interviewed more than 100 pre-screened candidates for a variety of professional, technical, scientific and administrative positions.

The event is part of NIH's strategy to recruit the best candidates in often-under-served groups. Hiring veterans and persons with disabilities remains a priority for President Obama; NIH is implementing a variety of initiatives to support the effort.



The registration table for candidates is staffed by (from l) Ivori Lipscomb-Warren, Amarylis Lopez and Christine Conyers.

To find candidates, NIH worked closely with associations and organizations supporting veterans and persons with disabilities to spread the word to their members. NIH also advertised in newspapers, radio and social media.

The online job announcement attract-

ed several hundred applications that were pre-screened by OHR. Only the most qualified applicants were invited to interview at the Hiring Event.

"We were really pleased by the high caliber of the candidates we interviewed," said Rebecca Claycamp, chief grants management officer with NIMH. "We didn't attend just to say we did; we came looking for high-quality candidates and we found them," she continued, noting that her office has hired an individual interviewed at the event.

"In addition to being an important event that will help NIH achieve hiring goals established for these two unique populations, it is an extremely rewarding experience," said Valerie Gill, director of OHR's Client Services Division. "You have a chance to make a difference in someone's life by providing an employment opportunity and also help NIH fill critical vacancies with high-caliber candidates." —John Grill ②



ARAB SPRING

CONTINUED FROM PAGE 1

Above:

Egypt's new science minister Dr. Amr Salama (l) met recently with Dr. Lawrence Tabak, NIH principal deputy director, to discuss ways to increase collaboration between Egypt and the U.S.

PHOTO: BILL BRANSON

Egyptian scientists,” agreed Dr. Lawrence Tabak, NIH principal deputy director.

Salama assured NIH officials the recent change in government has not disrupted his country’s biomedical research enterprise. “Everything is running normally at Egypt’s universities and research centers,” he said. “Everyone is excited and optimistic about the future.”

To drive Egypt’s economic recovery, the new government intends to increase its budget for education, scientific research and health from 0.7 percent of gross domestic product to 2 percent by 2015. “This is a clear indication that research is a priority,” he said.

Salama is the country’s official representative to the World Health Organization, a sign of the importance he places on health and research. In most cases, it is the minister of health who plays that role.

Egypt’s most urgent health concern is combating the hepatitis C virus, which infects more than 10 percent of the population, Salama said. Other priorities include addressing its high rate of colorectal and childhood cancers and schistosomiasis, a parasitic infection endemic in Egypt.

To spur investigations in these and other areas, Salama plans to upgrade research facilities, improve IT infrastructure and data mining capabilities, increase salaries for faculty so they can dedicate more time to research and bolster science and math education.

In addition, he would like to encourage more short- and long-term scientific exchanges, including increasing the number of visiting Egyptian scientists at NIH from the current nine. He’d also like to expand the ongoing NIH collaborations with his country, which include bioethics and trauma research training, studies of youth drug abuse and investigations of bladder, breast and liver cancer.

Finally, he is asking that Egypt be given open access to scientific journals, as was granted to Iraq through the Iraq Virtual Science Library.

Expansion of Egypt’s biomedical research enterprise will benefit the entire region, Salama noted. Egypt helped establish the African Network for Drugs and Diagnostics Innovation, a consortium of 52 African nations intended to promote and sustain African-led product innovation through the discovery, development and delivery of affordable new tools. Egypt, as one of the top three research producers on the continent, plays a leading role.

“We are interested not only in engaging with more Egyptian scientists directly, but also in working to integrate them into NIH efforts in Africa to strengthen scientific capacity throughout the continent,” said Fogarty director Dr. Roger Glass.

The Arab Spring has re-energized Egypt’s research community, Salama said, and created new opportunities for international exchange and innovation.

“We have the vision to apply scientific solutions to our society’s health needs and to support a knowledge-based country,” he explained. “With our enhanced investment—together with the wisdom and guidance from our U.S. partners—we will see a new Egypt.” ●

milestones

Greenberg Named NIGMS Acting Director

Dr. Judith H. Greenberg will lead NIGMS while the search continues for a permanent director to replace Dr. Jeremy Berg.

"With Dr. Greenberg as acting director, NIGMS will be in very able hands during this transition period. Not only does she have a long history of exceptional leadership at the NIGMS and NIH levels, she has already capably served a previous tour of duty in the acting director position," said NIH director Dr. Francis Collins.

Greenberg will oversee the institute's \$2 billion budget, which primarily funds basic research, research training and programs designed to increase the diversity of the biomedical and behavioral research workforce.

"I look forward to continuing our efforts to capitalize on exciting scientific opportunities, get input on and respond to the needs of the research community, and build in other ways on the considerable progress we've made during Dr. Berg's tenure," Greenberg said.

"In the months ahead, we will also be focusing on implementing our new strategic plan for research training. And we very much look forward to a major milestone in 2012, when NIGMS marks its 50th anniversary," she added.

A developmental biologist by training, Greenberg has directed the NIGMS Division of Genetics and Developmental Biology since 1988. In fiscal year 2010, the division's budget was \$566 million.

Since 1984, Greenberg has been project officer for the Human Genetic Cell Repository, which provides cell lines and DNA samples to scientists studying genetic diseases. She has been instrumental in overseeing the evolution of the collection to anticipate and meet the needs of the human genetic research community.

She served as NIGMS acting director from May 2002 to November 2003.



Greenberg's other leadership roles at NIGMS include overseeing development of the institute's strategic plan issued in 2008 and its strategic plan for research training issued earlier this year. She now chairs the implementation committee for the training strategic plan.

Greenberg has a strong interest in bioethical issues, including those related to community consultation in genetic research and currently serves on the NIH bioethics task force.

She has also advised NIH on human embryonic stem cells and gene therapy. In addition, Greenberg has served as principal leader of the NIH Director's Pioneer Award Program since 2004 and of the NIH Director's New Innovator Award Program since its inception in 2007.

Prior to joining NIGMS as a program administrator in 1981, Greenberg conducted research in the intramural program of what is now NIDCR. Her focus was on cell migration and differentiation in early embryonic development.

Greenberg's honors include a Public Health Service Special Recognition Award in 1991 and a Presidential Meritorious Executive Rank Award in 1999. Her leadership of the Pioneer and New Innovator Award programs was recognized with NIH Director's Awards in 2006 and 2008, respectively.

Greenberg earned a B.S. degree in biology from the University of Pittsburgh, an M.A. degree in biology from Boston University and a Ph.D. degree in developmental biology from Bryn Mawr College.

Austin Appointed NIEHS Associate Director for Management

NIEHS recently welcomed Joellen Harper Austin as its new associate director for management and executive officer. She will serve as principal advisor to NIEHS/NTP director Dr. Linda Birnbaum on all management issues affecting the institute, ranging from acquisitions, administrative services and information services to financial management, facilities management and the institute's proactive environmental sustainability initiative.

Austin comes to NIEHS from the National Institute of Neurological Disorders and Stroke, where she had been associate director for management and executive officer since February 2007. After joining NINDS in 2000 as chief grants management officer, she served as deputy executive officer and acting executive officer there. Since joining NIH as a Presidential Management Fellow in 1989, Austin also served as chief grants management officer for the National Center for Research Resources and assistant grants policy officer in the NIH Office of Extramural Research.

Austin received a master of science in management degree at Stanford University Graduate School of Business in 2003. In addition, she holds a master of public affairs from the Lyndon B. Johnson School of Public Affairs at the University of Texas and a bachelor of arts in economics and government from Skidmore College. ①



Cancer Genome Atlas Completes Ovarian Cancer Analysis

An analysis of genomic changes in ovarian cancer has provided the most comprehensive and integrated view of cancer genes for any cancer type to date. Ovarian serous adenocarcinoma tumors from 500 patients were examined by the Cancer Genome Atlas (TCGA) Research Network and analyses were reported in the June 30 issue of *Nature*.

Serous adenocarcinoma is the most prevalent form of ovarian cancer, accounting for about 85 percent of all ovarian cancer deaths. TCGA researchers completed whole-exome sequencing, which examines the protein-coding regions of the genome, on an unprecedented 316 tumors. They also completed other genomic characterizations on these tumors and another 173 specimens.

TCGA is jointly funded and managed by the National Cancer Institute and the National Human Genome Research Institute.

"This landmark study is producing impressive insights into the biology of this type of cancer," said NIH director Dr. Francis Collins. "It will significantly empower the cancer research community to make additional discoveries that will help us treat women with this deadly disease. It also illustrates the power of what's to come from our investment in TCGA."

Findings in Mice May Help Curb Obesity, Type 2 Diabetes

Scientists at NIH have uncovered a pathway in mice that allows white fat—a contributor to obesity and type 2 diabetes—to burn calories in a way that's normally found in brown fat and muscle. The findings appeared in the July 6 edition of *Cell Metabolism*.

White fat is used to store calories. However, too much white fat (obesity) increases the risk of type 2 diabetes and other diseases. Brown fat generates heat to maintain body temperature and, like muscle, has lots of iron-containing, calorie-burning mitochondria in its cells. Changing white fat into brown fat or muscle is a potential new approach to treating obesity and

type 2 diabetes, although the research is a long way from being applicable to people.

The findings were exciting and unexpected, said Dr. Sushil Rane, a researcher at the National Institute of Diabetes and Digestive and Kidney Diseases and the paper's senior author. "We weren't looking to have white fat acquire the properties of brown fat, but that's what we found, with the fat getting browner from increased mitochondria and displaying genes typically expressed in muscle. It was a striking difference.

"Efforts to reduce obesity by dieting are mostly unsuccessful in the long term, so finding ways to prevent excess fat storage is an urgent medical need," Rane continued. "Our discovery that white fat can be reduced by partially transforming it to brown fat and muscle opens up new avenues to combat the obesity epidemic."

Balance Tips Toward Environment as Heritability Ebbs in Autism

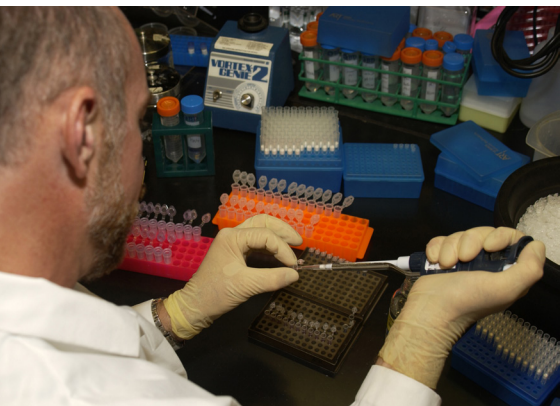
The largest and most rigorous twin study of its kind to date has found that shared environment influences susceptibility to autism more than previously thought.

The study, supported by NIH, found that shared environmental factors—experiences and exposures common to both twin individuals—accounted for 55 percent of strict autism and 58 percent of more broadly defined autism spectrum disorders (ASD). Genetic heritability accounted for 37 percent of autism and 38 percent of ASD. Random environmental factors not shared among twins play a much smaller role.

Earlier twin studies had estimated the genetic heritability of autism to be as high as 90 percent, due to much lower estimates of concordance—both members of a twin pair having the disorder—in fraternal twins. The new study found such concordance to be four to five times higher. The findings were reported in the July 2011 issue of the *Archives of General Psychiatry*.

"High fraternal twin concordance relative to identical twin concordance underscores the importance of both the environment and moderate genetic heritability in predisposing for autism," said Dr. Joachim Hallmayer of Stanford University, a grantee of the National Institute of Mental Health. "Both types of twin pairs are more often concordant than what would be expected from the frequency of autism in the general population. However, the high concordance among individuals who share only half their genes relative to those who share all of their genes implies a bigger role for shared environmental factors."

An analysis of genomic changes in ovarian cancer has provided the most comprehensive and integrated view of cancer genes for any cancer type to date.





The phone numbers for more information about the studies below are 1-866-444-2214 (TTY 1-866-411-1010) unless otherwise noted.

Adult Stem Cell Study

Healthy volunteers are needed for a study designed for the collection of stem cells from blood of adult humans for use in research studies. If you are 18 or older, consider participating in this study. All study-related tests are provided at no cost. Compensation is provided. Refer to study 06-DK-0142. Se habla español.

Eosinophilic Gastroenteritis Research Study

Doctors at the National Institute of Allergy and Infectious Diseases are conducting a study to improve understanding of how the immune system responds to food allergens and how immune cells contribute to disease in individuals with food allergies and eosinophil-associated gastrointestinal disorders (EGIDs). If you have EGID and are 18 to 65, consider participating in this study. There's no cost for study-related procedures and compensation may be provided. Refer to study 10-I-0196.

Physical Urticaria Study Needs Healthy Volunteers

The National Institute of Allergy and Infectious Diseases is conducting a study to learn more about the body's response to conditions that might cause hives. Participants will be required to travel to NIH for participation. A short overnight stay may be required. Refer to study 09-I-0126. Se habla español.

Women's Health Studies Seek Healthy Volunteers

Healthy women ages 18-65 are invited to participate in outpatient research studies. Compensation is provided. Call (301) 496-9576 and refer to protocols 81-M-0126, 88-M-0131 and 03-M-0138.

Study of Neck Pain

Are you a healthy individual with neck pain for 3 months or less? If you are between the ages of 18 and 65, you may be able to participate in a neck pain study and receive a comprehensive cervical musculoskeletal examination. Healthy volunteers are also needed. Email NeckPainStudy@gmail.com or call (301) 451-7514. Refer to study 02-CC-0245.

Midlife, Menopause Study Stopping Hormone Therapy

Women ages 45-65 who have taken hormone therapy for perimenopausal mood changes are invited to participate in an outpatient research study. There is no cost for participation. Compensation is provided. Call (301) 496-9576 and refer to study 03-M-0175.

Postpartum Depression Research Studies

Women ages 18-45 who struggle with postpartum depression or who had PPD in the past are invited to participate in outpatient research studies. There is no cost for participation. Compensation may be provided. Call (301) 496-9576 and refer to study 03-M-0138.

Premenstrual Syndrome Research Studies

Women ages 18-50 who struggle with irritability, anxiety or sadness prior to menstruation are invited to participate in outpatient research studies. There is no cost for participation. Compensation may be provided. Phone (301) 496-9576 and refer to study 81-M-0126.



The recent meeting of the CSR Advisory Council included (top row, from l) Dr. Bruce Alberts, Dr. Toni Scarpa, executive secretary Dr. Cheryl Kitt, Dr. Alice Clark, Dr. David Korn. In bottom row are (from l) Drs. Keith Yamamoto, Ety Benveniste, Marie Krousel-Wood and John Cacioppo.

CSR Establishes Advisory Council

Scientific experts from across the country have joined a new council, which met recently to begin advising the Center for Scientific Review on the peer review of NIH grant applications in CSR scientific review groups.

Members include: Dr. Toni Scarpa, CSR director, chair; Dr. Bruce Alberts, professor, department of biochemistry and biophysics, University of California, San Francisco; Dr. Ety Benveniste, professor and chair, department of cell biology, University of Alabama; Dr. John Cacioppo, Tiffany and Margaret Blake distinguished service professor, department of psychology, University of Chicago; Dr. Alice Clark, Frederick A.P. Bernard distinguished professor of pharmacognosy and vice chancellor for research and sponsored programs, University of Mississippi; Dr. Garret Fitzgerald, chair, department of pharmacology, director, Institute for Translational Medicine and Therapeutics and McNeil professor in translational medicine, University of Pennsylvania; Dr. Heidi Hamm, professor and chair, department of pharmacology, Vanderbilt University Medical Center; Dr. David Korn, professor of pathology and vice provost for research, Harvard University; Dr. Marie Krousel-Wood, director, Center for Health Research, Ochsner Clinic Foundation and clinical professor of epidemiology and family medicine, Tulane University; Dr. Peter MacLeish, George H.W. and Barbara Bush professor of neuroscience, chair, department of anatomy and neurobiology and director, Neuroscience Institute, Morehouse School of Medicine; Dr. Andrew Murray, professor of molecular and cellular biology and director, Bauer Fellows Program, Harvard University; Dr. Keith Yamamoto, executive vice dean, School of Medicine, department of cellular and molecular pharmacology, University of California, San Francisco.



Above, Dr. William Paul today (l) and in 1971, when he became LI chief

NIAID's Paul Celebrates 40th Anniversary as Lab Chief

2011 marks the 40th anniversary of Dr. William Paul's tenure as chief of NIAID's Laboratory of Immunology. Paul, a leading immunologist best known for his work in cytokine biology, is one of NIH's Distinguished Investigators.

Paul joined NIAID in 1968. Three years later, he was named chief of the Laboratory of Immunology. He and his colleagues performed key experiments that led to the discovery and characterization of the cell-signaling molecule interleukin 4 (IL-4). They demonstrated that IL-4 is critical for B-cell production of the antibody immunoglobulin E, a central player in allergic diseases. Paul's research team was the first to determine the requirements for the differentiation of naive CD4+ T cells into specialized effector T cells.

The Laboratory of Immunology continues to pursue basic research studies of the immune system, including investigations into how the dysregulation of the immune system results in autoimmune disease. Paul's specific focus includes studying the functions of IL-4, CD4+ T-cell development, function and plasticity and the induction and maintenance of immunologic memory.

As lab chief, Paul has trained and mentored more than 80 postdoctoral fellows, three of whom are now members of the National Academy of Sciences. Additionally, several current NIH lab chiefs are former members of his lab, including Dr. Ronald Germain, chief of the NIAID Laboratory of Systems Biology, and Dr. Ronald Schwartz, chief of the NIAID Laboratory of Cellular and Molecular Immunology.

From 1994 to 1997, Paul also served as director of the NIH Office of AIDS Research, where he invigorated HIV vaccine research and development and played a key role in the creation of the NIAID Vaccine Research Center.

For his contributions to the field of immunology, Paul has received numerous awards, including the 1980 Founder's Prize of the Texas Instruments Foundation, the 1988 3M Life Sciences Award from the Federation of American Societies for Experimental Biology and the 2008 Max Delbrück Medal from the Max Delbrück Center for Molecular Medicine in Berlin. He also has received Lifetime Achievement Awards from the American Association of Immunologists and the International Cytokine Society. Paul is a member of the National Academy of Sciences, the Institute of Medicine and the American Academy of Arts and Sciences. He has received six honorary degrees.

Currently, Paul chairs the scientific advisory board of the Lupus Research Institute. He is the founding editor-in-chief of the *Annual Review of Immunology*, now in its 30th volume, and editor of the textbook *Fundamental Immunology*, the seventh edition of which is now in pre-production.



Fox Discusses Peer-To-Peer Health Care, Aug. 2 in Natcher

Susannah Fox, associate director of the Pew Research Center's Internet & American Life Project, will speak at NIH on Tuesday, Aug. 2, from 10 a.m. to noon in

Natcher Bldg., Rms. E1-E2. She will discuss how the Internet is transforming health communications by providing users access to information and each other.

As broadband and mobile access spreads, more people have the ability—and increasingly, the habit—of sharing what they are doing or thinking. In health care, this translates to people tracking their workout routines, posting reviews of their medical treatments and raising awareness about certain health conditions.

Although Pew Internet's data indicate that doctors, nurses and other health professionals remain the central source of information for most Americans, online connections are an increasingly important supplement to professional medical advice. To illustrate her points, Fox will share national survey research and an analysis of Internet use among members of the National Organization for Rare Disorders.

Seminar participants will learn more about:

- ✔ Why patients and caregivers look to the Internet for support and advice
- ✔ What groups outpace others in tapping the wisdom of their peer network
- ✔ How researchers and clinicians can best leverage social network sites, blogs, online communities, email groups and listservs.

The seminar is sponsored by the NIH Office of Disease Prevention, Office of Rare Diseases Research, Office of Communications & Public Liaison and the Office of Behavioral and Social Sciences Research. Registration is not required; seating is on a first-come, first-served basis.

Individuals who need sign language interpreters and/or reasonable accommodation to participate in this event should contact Paris Watson at Paris.Watson@nih.gov.